WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM

SAPUTO CHEESE USA INC

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility located at

1052 6TH STREET ALMENA WI

to

THE GROUNDWATER OF THE LOWER CHIPPEWA RIVER BASIN VIA A SPRAY IRRIGATION SYSTEM AND LANDSPREADING, AND TO AN UNNAMED TRIBUTARY TO THE HAY RIVER IN THE HAY RIVER WATERSHED, LOWER CHIPPEWA RIVER BASIN IN BARRON COUNTY

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources
For the Secretary

By _____
Michelle Balk
Wastewater Field Supervisor

_____
Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - July 01, 2021 **EXPIRATION DATE - June 30, 2026**

TABLE OF CONTENTS

1 Influent Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
701	Representative samples shall be collected between the equalization lagoon and aerated lagoon.

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 701 - PROCESS WW TO AERATED LAGOON

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD_5, Total		mg/L	Monthly	Grab	
Nitrogen, Total Kjeldahl		mg/L	Monthly	Grab	
Chloride		mg/L	Monthly	Grab	

1.2.1.1 Daily Log

The permittee shall maintain a daily log that records the daily flow and volumes of the wastewater discharge from the plant. The daily log must be available for inspection by the Department.

2 In-Plant Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
101	The discharge to the storage ponds is limited to wastewater from the aerated lagoon. Representative samples shall be collected from the manhole after the aerated lagoon prior to discharge to the storage ponds.
103	Discharge shall be limited to wastewater from the storage lagoons. Representative samples shall be collected in the pumphouse prior to discharging to the spray irrigation system or from the spray nozzle. The total size of the land treatment system is approximately 172 acres. Discharge and sampling are effective between May 1st and October 31st annually.

2.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point 101 - DISCHARGE TO STORAGE PONDS

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
BOD_5, Total		mg/L	Monthly	Grab	

2.2.2 Sampling Point 103 - WASTEWATER TO SPRAY IRRIGATION

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate	Monthly Avg	0 MGD	Daily	Total Daily	Limit effective November 1st through April 30th.
BOD_5, Total		mg/L	Monthly	Grab	
Chloride		mg/L	Monthly	Grab	
Nitrogen, Total		mg/L	Monthly	Grab	
Solids, Total Dissolved		mg/L	Monthly	Grab	

2.2.2.1 Sampling Frequency

Sampling requirements identified in Table 2.2.2 of the permit (BOD_5, chloride, total nitrogen and total solids) are required during months with discharge to spray irrigation outfall(s), which typically occurs May 1 through October 31.

3 Surface Water Requirements

3.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
002	The use of Outfall 002 shall be limited to emergency discharges of whey condensate and non-contact cooling water. Representative samples shall be collected prior to discharge to the tributary of the Hay River within the Lower Chippewa River drainage basin.

3.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

3.2.1 Sampling Point (Outfall) 002 - DISCHARGE TO TRIBUTARY

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
Temperature	Daily Max	100 deg F	2/Month	Grab	
BOD_5, Total	Daily Max	40 mg/L	3/Week	24-Hr Comp	
BOD_5, Total	Monthly Avg	20 mg/L	3/Week	24-Hr Comp	
Suspended Solids, Total	Daily Max	40 mg/L	2/Month	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	20 mg/L	2/Month	24-Hr Flow Prop Comp	
pH Field	Daily Max	9.0 su	2/Month	Grab	
pH Field	Daily Min	6.0 su	2/Month	Grab	
Dissolved Oxygen	Daily Min	4.0 mg/L	2/Month	Grab	
Nitrogen, Ammonia (NH_3-N) Total		mg/L	2/Month	24-Hr Comp	
Phosphorus, Total		mg/L	2/Month	24-Hr Flow Prop Comp	
Conductivity		µmhos/cm	Daily	Continuous	
Acute WET		TU_a	See Permit Note	24-Hr Flow Prop Comp	See the "Whole Effluent Toxicity (WET) Testing" footnote for more information.
Chronic WET		TUc	See Permit Note	24-Hr Flow Prop Comp	See the "Whole Effluent Toxicity (WET) Testing" footnote for more information.

3.2.1.1 Whole Effluent Toxicity (WET) Testing

Primary Control Water: Hay River

Instream Waste Concentration (IWC): 100%

Dilution series: At least five effluent concentrations and dual controls must be included in each test.

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.
- **Chronic:** 100, 75, 50, 25, 12.5% and any additional selected by the permittee.

WET Testing Frequency:

Acute and **Chronic** tests shall be conducted during periods of discharge. Testing periods shall be at least 30 days apart and testing will not exceed twice a year. The permittee is required to notify the department prior to a discharge from Outfall 002, the department compliance engineer will develop an appropriate Acute and Chronic WET testing schedule.

Testing: WET testing shall be performed during normal operating conditions. Permittees are not allowed to turn off or otherwise modify treatment systems, production processes, or change other operating or treatment conditions during WET tests.

Reporting: The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

Determination of Positive Results: An acute toxicity test shall be considered positive if the Toxic Unit - Acute (TU_a) is greater than 1.0 for either species. The TU_a shall be calculated as follows: $TU_a = 100 \div LC_{50}$. A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic (TU_c) is greater than 1.0 for either species. The TU_c shall be calculated as follows: $TU_c = 100 \div IC_{25}$.

Additional Testing Requirements: Within 90 days of a test which showed positive results, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report Forms". The 90 day reporting period shall begin the day after the test which showed a positive result. The retests shall be completed using the same species and test methods specified for the original test (see the Standard Requirements section herein).

4 Land Treatment Requirements

4.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, Waste Description/Sample Contents and Treatment Description (as applicable)**
007	Spray irrigation field "A" is located in the SWQ NWQ of Section 7; T33N-R13W and consists of 37 acres. Discharge is permitted between May 1st and October 31st annually.
008	Spray irrigation field "B" is located in the NWQ SWQ of Section 7; T33N-R13W and consists of 37 acres. Discharge is permitted between May 1st and October 31st annually.
009	Spray irrigation field "C" is located in the SWQ SWQ of Section 7; T33N-R13W and consists of 37 acres. Discharge is permitted between May 1st and October 31st annually.
011	Spray irrigation field "E" is located in the NWQ SEQ of Section 12; T33N-R14W and consists of approximately 24 acres. Discharge is permitted between May 1st and October 31st annually.
012	Spray irrigation field "F" is located in the NWQ NEQ of Section 13; T33N-R14W and consists of 37 acres. Discharge is permitted between May 1st and October 31st annually.

4.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

4.2.1 Sampling Point (Outfall) 007 - SPRAY FIELD A; 008- SPRAY FIELD B; 009- SPRAY FIELD C; 011- SPRAY FIELD E, and 012- SPRAY FIELD F, Spray Irrigation

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
Hydraulic Application Rate	Monthly Avg	3,500 gal/ac/day	Monthly	Calculated	Effective during the spray season, May 1st - October 31st.
Hydraulic Application Rate	Monthly Avg	0 gal/ac/day	Monthly	Calculated	Effective November 1st - April 30th.
Nitrogen, Max Applied On Any Zone	Annual Total	400 lbs/ac/yr	Annual	Total Annual	Report the highest cumulative nitrogen loading to a spray zone over each calendar year on the December eDMR.

Daily Log – Monitoring Requirements and Limitations All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under "Records Retention" in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	**Limit**	**Units**	**Sample Frequency**	**Sample Type**
Zone or Location Being Sprayed	-	Number	Daily	Log
Acres Being Sprayed	-	Acres	Daily	Log
Start to End Time	-	Date, Hour	Daily	Log
Maximum Applied Volume	-	Inches/Load Cycle	Daily	Calculated

Annual Report – Monitoring Requirements and Limitations The Annual Report is due by January 31st of each year for the previous calendar year.				
Parameters	**Limit**	**Units**	**Sample Frequency**	**Sample Type**
Total Volume Per Zone	-	Gallons	Annual	Total Annual
Total Nitrogen per Zone	**400**	Pounds/Acre/Year	Annual	Calculated
Soil Analysis	-	-	Annual	Composite
Fertilizer Used	-	Pounds/Acre/Year	Annual	Total Annual

Note: Inches/load cycle = gallons/acre/load cycle divided by 27,154.

4.2.1.1 Monthly Avg Flow – LT Calculation

The monthly average discharge flow for Land Treatment systems is calculated by dividing the total wastewater volume discharged for the month by the total number of days in the month.

4.2.1.2 Spray Irrigation Site(s) - Soil Analysis

The soil at each spray irrigation site corresponding to each spray irrigation sample point (outfall) shall be tested annually for nitrate-nitrogen, available phosphorus, available potassium and pH. The soil tests shall be conducted by an approved testing facility. Before using the spray irrigation site each spring, the permittee shall submit to the Department a Soil Test Report and a Preplant Profile Nitrate Report. All nutrient applications shall be consistent with recommendations found in the University of Wisconsin – Extension pamphlet A2809: Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin, or as approved in the management plan. See the following Wisconsin Extension Service's pamphlets for more information: A2100 – Sampling for Soil Testing, A3512 – Wisconsin's Preplant Soil Nitrate Test, and A2519 – Soil and Applied Nitrogen.

5 Groundwater Requirements

5.1 Monitoring Requirements and Limitations

5.1.1 Groundwater Monitoring System for Land Treatment Sites

Location of Monitoring System: Adjacent to Lagoon System and Spray Fields

Wells to be Monitored: 801 (WELL 1), 802 (WELL 2), 805 (WELL 2E), 806 (WELL 3E), 807 (WELL 5), 809 (WELL 7), 810 (WELL 8), 811 (WELL 9), 812 (WELL 10), 813 (WELL 7P), 814 (WELL 8P), 815 (WELL 11), 816 (WELL 6R), 817 (Well 12), 818 (Well 13)

Well Used To Calculate Preventive Action Limits (PALs): 805 (WELL 2E)

PALs listed in the table below have been calculated based on background groundwater quality data from this designated well. Groundwater contaminant concentrations shall be minimized and PALs met in groundwater monitoring wells to the extent it is technically and economically feasible.

Compliance Well(s) for Enforcement Standards (ESs): 811 (WELL 9), 807 (WELL 5), 806 (WELL 3E), 801 (WELL 1)

Enforcement standards are to be met in groundwater located beyond the 250 foot design management zone, or beyond the property boundary, whichever is closer to the land treatment system. See the Standard Requirements section of this permit for additional conditions related to exceedance of groundwater standards.

Required Monitoring: Grab samples shall be collected from each well to be monitored per the frequency shown in the table below, except that monthly grab samples shall be collected from each new well during the first 3 months after well installation. The grab samples shall be analyzed for the parameters specified in the table below.

PARAMETER	UNITS	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	FREQUENCY
Depth To Groundwater	feet	*****	N/A	Quarterly
Groundwater Elevation	feet	*****	N/A	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	2.5	10	Quarterly
Chloride Dissolved	mg/L	180	250	Quarterly
pH Field	su	8.0	N/A	Quarterly
Nitrogen, Total Kjeldahl Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	Quarterly
Nitrogen, Organic Dissolved	mg/L	2.5	N/A	Quarterly
Nitrogen, Total Dissolved	mg/L	5.6	N/A	Quarterly
Solids, Total Dissolved	mg/L	460	N/A	Quarterly

5.1.1.1 Alternative Concentration Limit

Alternative concentration limits (ACL) of **2.5 mg/L** has been established for the **Nitrite + Nitrate Nitrogen** and **180 mg/L** for **Dissolved Chloride** at this site. These ACLs are authorized in conjunction with an exemption granted under s. NR 140.28, Wis. Adm. Code.

5.1.1.2 pH Preventive Action Limits

A pH monitoring result is considered to have exceeded the pH preventive action limit (PAL) for this site if the result is less than **6.0 s.u.** or greater than **8.0 s.u.**

5.1.1.3 Preventive Action Limits for Indicator Parameters

Preventive Action Limits (PALs) for NR 140 Indicator Parameters have been established for this site. For more information see "Indicator Parameter – Preventive Action Limits" in the Standard Requirements section.

*****PALs are not calculated for Depth to Groundwater, Groundwater Elevation, nor Total Kjeldahl Nitrogen.

6 Land Application Requirements

6.1 Sampling Point(s)

The discharge(s) shall be limited to land application of the waste type(s) designated for the listed sampling point(s) on Department approved land spreading sites or by hauling to another facility.

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
003	Outfall 003 shall be limited to high strength wastewater segregated from the wastewater streams to landspreading sites. Representative samples shall be collected from the wastewater storage tanks, prior to discharge to the approved landspreading sites.
004	Discharge from Outfall 004 shall be limited to sludge from an aerated lagoon treatment system and wastewater storage lagoons to landspreading sites. Representative samples shall be collected from the wastewater treatment and storage facilities prior to landspreading.

6.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

6.2.1 Sampling Point (Outfall) 003 - HIGH STRENGTH WASTEWATER

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
BOD_5, Total		mg/L	Monthly	Grab	
Nitrogen, Total Kjeldahl		mg/L	Monthly	Grab	
Chloride		mg/L	Monthly	Grab	
Phosphorus, Total		mg/L	Monthly	Grab	
Potassium, Total Recoverable		mg/L	Monthly	Grab	
Phosphorus, Water Extractable		% of Tot P	Monthly	Grab	

Daily Log – Monitoring Requirements and Limitations All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under "Records Retention" in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	**Limit**	**Units**	**Sample Frequency**	**Sample Type**
DNR Site Number(s)	-	Number	Daily	Log
Acres Applied	-	Acres	Daily	Log
Frozen Site Maximum Daily Loading Volume	6,800	Gal/Acre/Day	Daily	Calculated
Unfrozen Site Maximum Daily Loading Volume	13,500	Gal/Acre/Day	Daily	Calculated
Weekly Loading Volume	See NR 214 - Tbl 3	Inches/Week	Weekly	Calculated

Annual Report – Summary of Monitoring Requirements and Limitations The Annual Report is due by January 31st of each year for the previous calendar year. See the 'Annual Land Application Report' subsection in Standard Requirements.				
Parameters	**Limit**	**Units**	**Reporting Frequency**	**Sample Type**
DNR Site Number(s)	-	Number	-	-
Acres Land Applied	-	Acres	Annual	-
Total Volume Per Site	-	Gallons	Annual	Total Annual
Total Kjeldahl Nitrogen per Site	165, or alternate approved in writing	Pounds/Acre/Year	Annual	Calculated
Total Chloride per Site	340	Pounds/Acre per 2 Years	Annual	Calculated

6.2.1.1 Annual Site Nitrogen Loading

For details on nitrogen loading requirements, including approval of an alternate nitrogen pounds/acre/year site loading, see the "Nitrogen Requirements for Liquid Wastes, By-Product Solids and Sludges" paragraph in the Standard Requirements section of this permit.

6.2.1.2 Biennial Site Chloride Loading

For details on chloride requirements see the "Chloride Requirements for Liquid Wastes and By-Product Solids" paragraph in the Standard Requirements section of this permit.

6.2.2 Sampling Point (Outfall) 004 - SLUDGE

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	Monthly	Grab	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
pH Field		su	Monthly	Grab	
Nitrogen, Total Kjeldahl		Percent	Monthly	Grab	
Chloride		Percent	Monthly	Grab	
Phosphorus, Total		Percent	Monthly	Grab	
Potassium, Total Recoverable		Percent	Monthly	Grab	
Phosphorus, Water Extractable		% of Tot P	Monthly	Grab	

Daily Log – Monitoring Requirements and Limitations

All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under "Records Retention" in the Standard Requirements section, and if requested, made available to the Department.

Parameters	**Limit**	**Units**	**Sample Frequency**	**Sample Type**
DNR Site Number(s)	-	Number	Daily	Log
Acres Applied	-	Acres	Daily	Log
Application Rate	-	Gal/Acre/Day	Daily	Calculated

Annual Report – Summary of Monitoring Requirements and Limitations

The Annual Report is due by January 31st of each year for the previous calendar year. See the 'Annual Land Application Report' subsection in Standard Requirements.

Parameters	**Limit**	**Units**	**Reporting Frequency**	**Sample Type**
DNR Site Number(s)	-	Number	-	-
Acres Land Applied	-	Acres	Annual	-
Total Volume Per Site	-	Gallons	Annual	Total Annual
Total Kjeldahl Nitrogen per Site	165, or alternate approved in writing	Pounds/Acre/Year	Annual	Calculated
Total Chloride per Site	340	Pounds/Acre per 2 Years	Annual	Calculated

6.2.2.1 Annual Site Nitrogen Loading

For details on nitrogen loading requirements, including approval of an alternate nitrogen pounds/acre/year site loading, see the "Nitrogen Requirements for Liquid Wastes, By-Product Solids and Sludges" paragraph in the Standard Requirements section of this permit.

6.2.2.2 Biennial Site Chloride Loading

For details on chloride requirements see the "Chloride Requirements for Liquid Wastes and By-Product Solids" paragraph in the Standard Requirements section of this permit.

7 Schedules

7.1 Chloride Source Reduction Measures (SRMs) for Groundwater Discharges

Required Action	Due Date
Chloride Reduction Plan: The permittee shall complete and submit for Department review and approval a chloride reduction plan (CRP). The CRP is an initial step toward controlling chloride and ensuring compliance with chloride limits based on applicable groundwater standards. The CRP shall evaluate all applicable source reduction measures (SRMs) and establish appropriate implementation activities for the SRMs. The CRP shall include a schedule for implementing the selected SRMs.	12/31/2021
Annual Progress Report: Once the chloride reduction plan (CRP) is approved by the Department, the permittee shall submit an annual progress report, under the authority of s. NR 205.07(1)(h), Wis. Adm. Code. If a SRM implementation date of an approved CRP is not met, this may constitute a violation of the permit. Submittal of the first annual progress report is required by the Date Due.	12/31/2022
Second Annual Progress Report: Submit progress report in implementing the chloride reduction plan (CRP).	12/31/2023
Third Annual Progress Report: Submit progress report in implementing the chloride reduction plan (CRP).	12/31/2024
Fourth Annual Progress Report: Submit progress report in implementing the chloride reduction plan (CRP).	12/31/2025
Final Annual Progress Report: Submit progress report in implementing the chloride reduction plan (CRP).	12/31/2026

8 Standard Requirements

NR 205, Wisconsin Administrative Code (Conditions for Industrial Dischargers): The conditions in ss. NR 205.07(1) and NR 205.07(3), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(3).

8.1 Reporting and Monitoring Requirements

8.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a responsible executive or officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

8.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

8.1.3 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

8.1.4 Reporting of Monitoring Results

The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.

- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.

- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD_5 and Total Suspended Solids shall be considered to be limits of quantitation

- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a "0" (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

- If no discharge occurs through an outfall, flow related parameters (e.g. flow rate, hydraulic application rate, volume, etc.) should be reported as "0" (zero) at the required sample frequency specified for the outfall. For example: if the sample frequency is daily, "0" would be reported for any day during the month that no discharge occurred.

8.1.5 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application, except for sludge management forms and records, which shall be kept for a period of at least 5 years.

8.1.6 Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or correct information to the Department.

8.1.7 Reporting Requirements – Alterations or Additions

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

- The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source.
- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification requirement applies to pollutants which are not subject to effluent limitations in the existing permit.
- The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use of disposal sites not

reported during the permit application process nor reported pursuant to an approved land application plan. Additional sites may not be used for the land application of sludge until department approval is received.

8.2 System Operating Requirements

8.2.1 Noncompliance Reporting

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department as directed at the end of this permit within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under the 'Scheduled Bypass' section of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. **The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003**.

8.2.2 Bypass

Except for a controlled diversion as provided in the 'Controlled Diversions' section of this permit, any bypass is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the 'Noncompliance Reporting' section of this permit.

8.2.3 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit,

the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for unscheduled bypassing are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

8.2.4 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation provided the following requirements are met:

- Effluent from the wastewater treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge;
- A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics;
- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in wastewater treatment facility records and such records shall be available to the department on request.

8.2.5 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

8.2.6 Operator Certification

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-in-charge holding a current and valid certificate. The designated operator-in-charge shall be certified at the level and in all subclasses of the treatment plant, except laboratory. Treatment plant owners shall notify the department of any changes in the operator-in-charge within 30 days. Note that s. NR 114.52(22), Wis. Adm. Code, lists types of facilities that are excluded from operator certification requirements (i.e. private sewage systems, pretreatment facilities discharging to public sewers, industrial wastewater treatment that consists solely of land disposal, agricultural digesters and concentrated aquatic production facilities with no biological treatment).

8.2.7 Spill Reporting

The permittee shall notify the Department in accordance with ch. NR 706 (formerly NR 158), Wis. Adm. Code, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state at a rate or concentration greater than the effluent limitations established in this permit, or the spill or accidental release of the material is unregulated in this permit, unless the spill or release of pollutants has been reported to the Department in accordance with s. NR 205.07 (1)(s), Wis. Adm. Code.

8.2.8 Planned Changes

In accordance with ss. 283.31(4)(b) and 283.59, Stats., the permittee shall report to the Department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants. The report shall either be a new permit application, or if the new discharge will not violate the effluent limitations of this permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of this report, the Department may modify this permit to specify and limit any pollutants not previously regulated in the permit.

8.2.9 Duty to Halt or Reduce Activity

Upon failure or impairment of treatment facility operation, the permittee shall, to the extent necessary to maintain compliance with its permit, curtail production or wastewater discharges or both until the treatment facility operations are restored or an alternative method of treatment is provided.

8.3 Surface Water Requirements

8.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

8.3.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average concentration limits and mass limits and total load limits:

Weekly/Monthly/Six-Month/Annual Average Concentration = the sum of all daily results for that week/month/six-month/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Weekly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

Monthly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

Six-Month Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Annual Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the entire year.

Total Monthly Discharge: = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

Total Annual Discharge: = sum of total monthly discharges for the calendar year.

12-Month Rolling Sum of Total Monthly Discharge: = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

8.3.3 Effluent Temperature Requirements

Weekly Average Temperature – The permittee shall use the following formula for calculating effluent results to determine compliance with the weekly average temperature limit (as applicable): Weekly Average Temperature = the sum of all daily maximum results for that week divided by the number of daily maximum results during that time period.

Cold Shock Standard – Water temperatures of the discharge shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock. 'Cold Shock' means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavior or physiological performance and may lead to death.

Rate of Temperature Change Standard – Temperature of a water of the state or discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state.

8.3.4 Visible Foam or Floating Solids

There shall be no discharge of floating solids or visible foam in other than trace amounts.

8.3.5 Surface Water Uses and Criteria

In accordance with NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.

c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.

d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

8.3.6 Conductivity

The conductivity of the effluent shall be monitored continuously, with the daily maximum value reported on the Wastewater Discharge Monitoring Report Form. Flow with higher than normal conductivity, which would indicate high BOD_5 concentrations, shall be redirected to the wastewater treatment works. A valve must be provided to redirect the high strength wastewater to the wastewater treatment works.

8.3.7 Whole Effluent Toxicity (WET) Monitoring Requirements

In order to determine the potential impact of the discharge on aquatic organisms, static-renewal toxicity tests shall be performed on the effluent in accordance with the procedures specified in the *"State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2nd Edition" (PUB-WT-797*, November 2004) as required by NR 219.04, Table A, Wis. Adm. Code). All of the WET tests required in this permit, including any required retests, shall be conducted on the *Ceriodaphnia dubia* and fathead minnow species. Receiving water samples shall not be collected from any point in contact with the permittee's mixing zone and every attempt shall be made to avoid contact with any other discharge's mixing zone.

8.3.8 Whole Effluent Toxicity (WET) Identification and Reduction

Within 60 days of a retest which showed positive results, the permittee shall submit a written report to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., PO Box 7921, Madison, WI 53707-7921, which details the following:

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;

- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including some or all of the following actions:

  (a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
  (b) Identify the compound(s) causing toxicity
  (c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)
  (d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)

- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;

- If no actions have been taken, the reason for not taking action.

The permittee may also request approval from the Department to postpone additional retests in order to investigate the source(s) of toxicity. Postponed retests must be completed after toxicity is believed to have been removed.

8.4 Land Treatment Requirements for Industrial Discharges

NR 214, Wisconsin Administrative Code: The requirements of this section are based on ss. NR 214.12-16, Wis. Adm. Code, and apply to wastewater discharges to designed and constructed absorption pond, ridge & furrow, spray irrigation, overland flow and subsurface absorption treatment systems.

8.4.1 Formulas for Land Treatment Calculations

The permittee shall use the following formulas for land treatment calculations, unless an alternate calculation method is approved by the Department in the Land Treatment Management Plan.

8.4.1.1 Monthly Average Hydraulic Application Rate

Determine the monthly average hydraulic application rate (in gal/acre/day) for each outfall by calculating the total gallons of wastewater applied onto the site for the month, dividing that total by the number of wetted acres loaded during the month, and then dividing this resulting value by the number of days in the month. Enter this calculated monthly value on the Discharge Monitoring Report form in the box for the last day of the month, in the "Hydraulic Application Rate" column.

8.4.1.2 Annual Total Nitrogen per Cell or per Zone

(annual ave. concentration in mg/L) (tot. annual flow in million gallons per cell or zone) (8.34) = lbs/ac/yr

acreage of cell or zone

8.4.1.3 Annual Total Chloride per Cell or per Zone

(annual ave. concentration in mg/L) (tot. annual flow in million gallons per cell or zone) (8.34) = lbs/ac/yr

acreage of cell or zone

8.4.2 Land Treatment Annual Report

Annual Land Treatment Reports are due by January 31st of each year for the previous calendar year.

8.4.3 Chloride Requirements for Land Treatment Systems

Since chloride is not significantly treated by the soil, the chloride level of the wastewater treated on land shall be minimized to the extent that is technically and economically feasible. The goal is to protect groundwater quality and prevent exceedance of the 180 mg/L groundwater preventive action limit (alternative concentration limit (ACL)).

8.4.4 Nitrogen Loading Requirements for Spray Irrigation

The total annual nitrogen loading (pounds/acre/year) to the wastewater spray irrigation acreage shall not exceed the limitation contained in the land treatment annual report table of this permit. Determination of the annual pounds of nitrogen applied to the land treatment system shall include the nitrogen supplied by the wastewater, organic nitrogen becoming available to plants and any supplemental fertilizers used. The Department may approve (in writing) an alternative nitrogen loading limit in a spray irrigation management plan based on the annual nitrogen needs of the cover crop and the permittee's demonstration of nitrogen losses for the site as specified in s. NR 214.14(3)(c), Wis. Adm. Code.

8.4.5 Ponding

The intensity of wastewater spray shall be limited to prevent ponding, except for temporary conditions following rainfall events.

8.4.6 Runoff

The volume of wastewater sprayed shall be limited to prevent runoff of any wastewater mixed with rainwater as specified in s. NR 214.14(3)(f), Wis. Adm. Code. If wastewater runoff occurs, spray irrigation shall cease immediately.

8.4.7 Seasonal Irrigation Restriction

Discharge to the spray irrigation field shall occur only between May 1 and October 31 each year, unless otherwise specified in the approved Land Treatment Management Plan.

8.4.8 Irrigation Management Plan

The spray irrigation treatment system shall be operated and managed in accordance with a Department approved management plan. The management plan shall be consistent with the conditions listed in this permit and s. NR 214.14(5), Wis. Adm. Code, which requires a load/rest cycle, cover crop removal, annual soil testing, etc. If operational changes are needed, the management plan shall be amended and such plan shall be submitted to the Department for approval prior to implementing such changes.

8.5 Groundwater Standard Requirements

8.5.1 Application of NR 140 to Substances Discharged

This permit does not authorize the permittee to discharge any substance in a concentration which would cause an applicable groundwater standard of ch. NR 140, Wis. Adm. Code, to be exceeded. The Department may seek a response under NR 140 if the permittee's discharge causes exceedance of an applicable groundwater standard for any substance, including substances not specifically limited or monitored under this permit.

8.5.2 Groundwater Sampling

Groundwater sampling shall be performed in accordance with procedures contained in the WDNR publications, Groundwater Sampling Desk Reference (PUBL-DG-037-96) and Groundwater Sampling Field Manual (PUBL-DG-038-96).

8.5.3 Indicator Parameter - Preventive Action Limits

Preventive action limits for indicator parameters are calculated using a minimum of eight sample analysis results available from a representative background well in accordance with the procedures in s. NR 140.20, Wis. Adm. Code.

8.5.4 Groundwater Monitoring Forms

Results of the groundwater analyses shall be summarized and reported on Groundwater Monitoring Forms. This report form is to be returned to the Department no later than the date indicated on the form. A copy of the groundwater monitoring form or an electronic file of the form shall be retained by the permittee. Groundwater monitoring results shall be reported on an electronic groundwater monitoring form and certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

8.5.5 Appropriate Formulas for Groundwater

Total Nitrogen = Total Kjeldahl Nitrogen (mg/L) + [NO_2 + NO_3] Nitrogen (mg/L)

Organic Nitrogen (mg/L) = Total Kjeldahl Nitrogen (mg/L) - Ammonia Nitrogen (mg/L)

8.5.6 Reporting Depth to Groundwater

Depth to groundwater shall be reported in feet, to the nearest 0.01 foot, below the top of the well casing. A report shall be on file with the Department stating the well casing top elevation in feet above mean sea level (MSL), to the nearest 0.01 foot, for each groundwater monitoring well.

8.5.7 Groundwater Elevation

Groundwater elevations shall be calculated by subtracting the depth to groundwater measurement from the well casing top elevation and shall be reported in feet above mean sea level (MSL) to the nearest 0.01 foot.

8.5.8 Groundwater Grab Samples

Grab samples shall be taken of the groundwater only after adequate removal or purging of standing water within the well casing has been performed. For those wells which will refill with water as fast as the water can be removed by

bailing or pumping, four well volumes shall be removed prior to sample collection and analysis. For those wells which will not refill with water as fast as the water can be removed by bailing or pumping, the existing volume of water inside the well casing shall be removed and samples collected after the well has refilled to at least half the original volume in the well.

8.5.9 Filtering of Groundwater Samples

All groundwater monitoring well samples shall be filtered prior to analysis, except for the portion used to measure pH or field specific conductance, which shall be done using an unfiltered sample. While in-field analysis is preferred for these two tests, laboratory analysis done within two hours of sample collection is acceptable. For the portion to be filtered, it is preferred that filtering be performed in the field immediately following sample collection. However, laboratory filtering is acceptable. Filtering shall be performed through a standard 0.45 micron filter.

8.5.10 Groundwater Data Log

A data log shall be used to record the results of all field sampling and analysis events. This log shall include date of sampling event, groundwater sampler's name, well identification, depth from pipetop to water, depth from pipetop to well bottom, time of purging (start to end), volume of water purged, indication of whether the well was purged dry, time of sample withdrawal, and the following applicable field observations: pH, field conductivity, temperature, color, odor and turbidity, indication of whether field filtering was performed and time of filtering, indication of cap and lock replaced, and comments.

8.5.11 Notification of Attaining or Exceeding Groundwater Quality Standards

The permittee shall notify the Department when monitoring results indicate that a Preventive Action Limit or Enforcement Standard has been attained or exceeded. This notification may be provided in the general remarks section of the groundwater monitoring form or by letter attached to the groundwater monitoring form. Any values reported as exceeding a groundwater standard shall be confirmed as being from a representative sample and as a correct laboratory analysis result.

8.5.12 Preventive Action Limit (PAL) Exceedance

Analysis results (from the land treatment monitoring wells) that are less than this permit's PALs indicate that operation of the land treatment system is protective of groundwater quality. Substance concentrations that exhibit a trend over time of being greater than the PAL may indicate that additional technically and economically feasible actions are needed to reduce the discharge of the substance to the groundwater. In such a case, the Department may request an evaluation and response or propose a permit modification to require submittal of a groundwater evaluation report and implementation of a feasible response as specified in NR 140.24(1)(b), Wis. Adm. Code.

8.5.13 Enforcement Standard Exceedance Within the Design Management Zone

Substance concentrations greater than this permit's enforcement standard (ES) in a permittee's monitoring well located within the property boundary and within the design management zone of the land treatment system may indicate that the groundwater concentration exceeds an ES outside of these boundaries. If the Department determines there is reasonable evidence that an ES is being attained or exceeded beyond the property boundary or beyond the design management zone, the Department may request an evaluation and response or propose a permit modification to require an evaluation report and appropriate response as specified in s. NR 140.26, Wis. Adm. Code.

8.5.14 Enforcement Standard Exceedance Outside the Design Management Zone

The permittee's land treatment system shall not cause the concentration of a substance in groundwater to attain or exceed this permit's enforcement standard at any point of present groundwater use, at any point beyond the property boundary, or at any point beyond the design management zone established under s. NR 140.22, Wis. Adm. Code.

When this condition is not met, **the permittee shall, within 120 days following notification by the Department of the attainment or exceedance of an ES beyond the compliance boundary, submit a groundwater quality evaluation and response report** as specified in NR 140.26(1)(b), Wis. Adm. Code. The Department may propose modification of this permit to require the permittee to implement additional treatment or other actions as specified in s. NR 140.26, Wis. Adm. Code.

8.6 Land Application Requirements

8.6.1 General Sludge Management Information

The General Sludge Management Form 3400-48 shall be completed and submitted prior to any significant sludge management changes.

8.6.2 Land Application Characteristic Report

The analytical results from testing of liquid wastes, by-product solids and sludges that are land applied shall be reported annually on the Characteristic Report Form 3400-49. The report form shall be submitted electronically no later than the date indicated on the form. Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

The permittee shall use the following convention when reporting sludge monitoring results: Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 1.0 mg/kg, report the pollutant concentration as < 1.0 mg/kg .

All sludge results shall be reported on a dry weight basis.

8.6.3 Monitoring and Calculating PCB Concentrations in Sludge

When sludge analysis for "PCB, Total Dry Wt" is required by this permit, the PCB concentration in the sludge shall be determined as follows.

Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with the following provisions and Table EM in s. NR 219.04, Wis. Adm. Code.

- EPA Method 1668 may be used to test for all PCB congeners. If this method is employed, all PCB congeners shall be delineated. Non-detects shall be treated as zero. The values that are between the limit of detection and the limit of quantitation shall be used when calculating the total value of all congeners. All results shall be added together and the total PCB concentration by dry weight reported. **Note**: It is recognized that a number of the congeners will co-elute with others, so there will not be 209 results to sum.
- EPA Method 8082A shall be used for PCB-Aroclor analysis and may be used for congener specific analysis as well. If congener specific analysis is performed using Method 8082A, the list of congeners tested shall include at least congener numbers 5, 18, 31, 44, 52, 66, 87, 101, 110, 138, 141, 151, 153, 170, 180, 183, 187, and 206 plus any other additional congeners which might be reasonably expected to occur in the particular sample. For either type of analysis, the sample shall be extracted using the Soxhlet extraction (EPA Method 3540C) (or the Soxhlet Dean-Stark modification) or the pressurized fluid extraction (EPA Method 3545A). If Aroclor analysis is performed using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.11 mg/kg as possible. Reporting protocol, consistent with s. NR 106.07(6)(e), should be as

follows: If all Aroclors are less than the LOD, then the Total PCB Dry Wt result should be reported as less than the highest LOD. If a single Aroclor is detected then that is what should be reported for the Total PCB result. If multiple Aroclors are detected, they should be summed and reported as Total PCBs. If congener specific analysis is done using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.003 mg/kg as possible for each congener. If the aforementioned limits of detection cannot be achieved after using the appropriate clean up techniques, a reporting limit that is achievable for the Aroclors or each congener for the sample shall be determined. This reporting limit shall be reported and qualified indicating the presence of an interference. The lab conducting the analysis shall perform as many of the following methods as necessary to remove interference:

3620C – Florisil	3611B - Alumina
3640A - Gel Permeation	3660B - Sulfur Clean Up (using copper shot instead of powder)
3630C - Silica Gel	3665A - Sulfuric Acid Clean Up

8.6.4 Annual Land Application Report

The annual totals for the land application loadings of liquid wastes, by-product solids and sludges to field spreading sites shall be submitted electronically on the Annual Land Application Report Form 3400-55 by January 31, each year whether or not waste is land applied. Following submittal of the electronic Annual Land Application Report Form 3400-55, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

8.6.5 Other Methods of Disposal or Distribution Report

The permittee shall submit electronically the Other Methods of Disposal or Distribution Report Form 3400-52 by January 31, each year whether or not waste is hauled to another facility, landfilled, incinerated, or stored in a manure pit. Following submittal of the electronic Report Form 3400-52, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

8.6.6 Land Application Site Approval

The permittee is authorized to landspread permitted liquid wastes, by-product solids and sludges on sites approved in writing by the Department in accordance with ss. NR 214.17(2) and 214.18(2), Wis. Adm. Code. Any site use restrictions or granting of case-by-case exceptions shall be identified in the approval letter. If the permittee wishes to have approval for additional sites, application shall be made using Land Application Site Request Form 3400-053. Complete information shall be submitted about each site, including location maps and soil maps, any soil analyses results and other information showing that the site complies with all application requirements and permit conditions. Spreading on a site may commence upon receipt of Department approval. If an existing spreading site is found by the Department to be environmentally unacceptable, a written notice will be issued to withdraw approval of that site.

8.6.7 Operating Requirements/Management Plan

All land application sites used for treatment of liquid wastes, by-product solids and sludges shall be operated in accordance with a Department approved management plan. The management plan shall be consistent with the requirements of this permit, ss. NR 214.17 (3) and (6), and NR 214.18 (3) and (6), Wis. Adm. Code. If operational changes are needed, the land application management plan shall be amended by submitting a written request to the

Department for approval. A land application management plan shall be submitted for approval at least 60 days prior to land application.

8.6.8 Chloride Requirements for Liquid Wastes and By-Product Solids

The total pounds of chloride applied shall be limited to 340 pounds per acre per 2 year period. Calculate the chloride loading as follows:

$$\text{Wet Weight Solids: } \frac{\text{lbs of solids X \%solids X \%chloride}}{\text{acres land applied X 100 X 100}} = \text{lbs chloride/acre}$$

$$\text{Liquid: } \frac{\text{mg/L chloride X (millions of gallons) X 8.34}}{\text{acres land applied}} = \text{lbs chloride/acre}$$

8.6.9 Nitrogen Requirements for Liquid Wastes and By-Product Solids and Sludges

NR 214.17(4) and NR 214.18(4) Wis. Adm. Code specify that the total pounds of nitrogen land applied per acre per year shall be limited to the nitrogen needs of the cover crop minus any other nitrogen added to the land application site, including fertilizer or manure. Nitrogen applied can be calculated on the basis of plant available nitrogen, as long as the release of nitrogen from the organic material is credited to future years. This permit requires that the Total Kjeldahl Nitrogen calendar year application amount shall not exceed 165 pounds per acre per year, except when alternate numerical nitrogen loading limits (consistent with the above sections of NR 214) are approved in writing via the Department's land application management plan approval. Calculate nitrogen loading as follows ("TKN" represents "Total Kjeldahl Nitrogen"):

$$\text{Wet Weight Solids and Sludges: } \frac{\text{lbs of solids X \%solids X \% TKN}}{\text{acres land applied X 100 X 100}} = \text{lbs TKN/acre}$$

$$\text{Liquid: } \frac{\text{mg/L TKN X (millions of gallons) X 8.34}}{\text{acres land applied}} = \text{lbs TKN/acre}$$

8.6.10 Ponding

The volume of liquid wastes land applied shall be limited to prevent ponding, except for temporary conditions following rainfall events. If ponding occurs all land application shall cease immediately. The permittee shall land apply only the liquid wastes that are permitted.

8.6.11 Runoff

The volume of liquid wastes land applied shall be limited to prevent runoff. If runoff occurs all land application shall cease immediately. The permittee shall land apply only the liquid wastes that are permitted.

8.6.12 Soil Incorporation Requirements

- Liquid Sludge Requirements: The Department may require that liquid sludge be incorporated into the soil on specific land application sites when necessary to prevent surface runoff or objectionable odors. Requirements and procedures for incorporation of liquid sludge, when such incorporation may be necessary, shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

- Cake Sludge Requirements: After land application, cake sludge shall be incorporated into the soil. The timing of such incorporation and other related requirements and procedures shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

- Liquid Wastewater Requirements: The Department may require that liquid wastewater be incorporated or injected into the soil on specific land application sites when necessary to prevent surface runoff or objectionable odors. Requirements and procedures for injection or incorporation of liquid wastewater, when such injection or incorporation is necessary, shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

- By-Product Solids Requirements: The Department may limit the volume of by-products solids that are landspread on a specific site when necessary to prevent surface runoff or leaching of contaminants to groundwater and objectionable odors. By-product solids shall, after application, be plowed, disced, or otherwise incorporated into the soil. Requirements and procedures for the incorporation of byproduct solids into the soil shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

8.6.13 Field Stockpiles

The permittee is encouraged to landspread the by-product solids or sludges as they are transported to the fields; but if it becomes necessary to stockpile solids in the fields, the stockpiles shall be spread within 72 hours or as specified in the approved management plan.

8.6.14 Additional Requirements from ch. NR 214, Wis. Adm. Code

The requirements of s. NR 214.17 (4)(c) [pathogen prohibition for human consumption crop fields], (4)(d)1 [no adverse soil effects], (4)(d)10 [allowable whey spreading rates], and (4)(e)1-3 [by-product solids spreading within agricultural practices and not cause contamination] for landspreading of liquid wastes and by product solids and s. NR 214.18 (4)(b),(d)-(h) [application, nutrient, pH, metals, and PCB limitations] for sludge spreading systems are included by reference in this permit. The permittee shall comply with these requirements.

9 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Chloride Reduction Plan	December 31, 2021	13
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Annual Progress Report	December 31, 2022	13
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Second Annual Progress Report	December 31, 2023	13
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Third Annual Progress Report	December 31, 2024	13
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Fourth Annual Progress Report	December 31, 2025	13
Chloride Source Reduction Measures (SRMs) for Groundwater Discharges - Final Annual Progress Report	December 31, 2026	13
General Sludge Management Form 3400-48	prior to any significant sludge management changes	24
Characteristic Report Form 3400-49	no later than the date indicated on the form	24
Land Application Report Form 3400-55	January 31, each year whether or not waste is land applied	25
Other Methods of Disposal or Distribution Report Form 3400-52	by January 31, each year whether or not waste is hauled to another facility, landfilled, incinerated, or stored in a manure pit	25
Groundwater Monitoring Forms.	no later than the date indicated on the form	22
Annual Land Treatment Reports	by January 31st of each year for the previous calendar year	21
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	14

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to:

Northern Region - Spooner, 810 W. Maple Street, Spooner, WI 54801-1255